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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,245	08/05/2003	Yi-Shiung Lee	59693 (71987)	9440

7590 07/14/2004  
Mr. Steven M. Jensen  
EDWARDS & ANGELL, LLP  
101 Federal Street  
Boston, MA 02110

EXAMINER
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GEBREMARIAM, SAMUEL A

ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/635,245

Applicant(s)

LEE ET AL.

Examiner

Samuel A Gebremariam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of claims 1 and 11 is unclear because the term "and/or". It appears from the claim that the ground structure can have a first ground portion and a second ground portion or the ground structure can have either the first ground portion or the second ground portion. It is not clear what applicant is trying to claim.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Punzalan et al., US patent No. 6,630,373.

Regarding claims 1 and 11, Punzalan teaches (col. 6, lines 11-63 and figs. 6 and 7) a lead frame having at least one die pad (52), a plurality of tie bars (60) connected with and supporting the die pad, a plurality of leads surrounding the die pad, and a ground structure (53); wherein the ground structure comprises at least one of first ground portions connected to the tie bars (portion of 53 connected to the tie bar), and wherein the first ground portions are separate from each other, at least one chip mounted on the die pad and electrically connected to the leads and the ground structure; and an encapsulation body for encapsulating the chip and the lead frame.

The recitation ground-enhanced semiconductor package, has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claims 2 and 12, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the first ground portions is separate from the second ground portions.

Regarding claims 3 and 13, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the first ground portion is connected to the die pad.

Regarding claims 4 and 14, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the first ground portion comprises a ground area and a connection area which are interconnected to form a hollow-out area together with one of the tie bars (the hollow region on 53 and closer to the tie bar).

Regarding claims 5 and 15, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the first ground portion is not connected to the die pad (portions of 53 are not connected to the die pad 52).

Regarding claims 6 and 16, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the first ground portion is shaped as a strip (top portion of 53 has a strip shape).

Regarding claims 7 and 17, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the second ground portion comprise a ground area and at least one connection area which are interconnected to form a hollow-out area together with a side edge of the die pad (portion of 53 closer to the die pad forms a hollow area).

Regarding claims 8 and 18, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including each of the tie bars (60) is formed with at least one of the first ground portions.

Regarding claims 9 and 19, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including the first ground portions (53) are connected to both lateral sides of the tie bars.

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Regarding claims 10 and 20, Punzalan teaches (fig. 7a) the entire claimed structure of claim 1 above including each side edge of the die pad is formed with at least one of the second ground portions.

**Conclusion**



5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-D are cited as being related to packaging.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A Gebremariam whose telephone number is (571)-272-1653. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAG  
June 26, 2004

   
SAG NADAN  
patent examiner